

IN THE SPECIFICATION:

Please make the following changes to the specification:

Before the first paragraph on the first page please enter the following paragraph:

Cross References to Related Applications

This application claims priority from PCT/EP03/07348 filed on July 8, 2003 and is a continuation-in-part of U.S. Patent Application No. 10/643,126 filed August 18, 2003.

On page three of the present specification, please insert on line 19 the following:

BRIEF SUMMARY OF THE INVENTION

On page 6, second paragraph of the present specification, please amend the following:

It is particularly favourable when, for the shaped parts, respective guide tracks resembling T-grooves inclined to the longitudinal axis of the die button are provided in which the shaped parts, after the release of the radially inwardly directed movement, slide under the pressure of a plunger and simultaneously carry out the above-mentioned axial and radial movement. The shaped parts can also have the shape of T-groove stones in cross-section, whereby a particularly favourable guidance of these shaped parts takes place.

On page 8 of the present specification, please insert on line 20 the following:

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

On page 9 of the present specification, please insert on line 11 the following:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

On page 10 of the present specification, please amend the following:

The setting head can for example be designed in accordance with the European patent application 96 1009 214.5 (~~P3526~~) in accordance with the European application 00 947 949.4 (~~P3882~~) or the corresponding divisional application 02 012 625.6 (~~P3971~~) or in accordance with the European patent application 00 931 155.6 (~~P3903~~).

On page 12, last paragraph through page 13, first paragraph of the present specification, please amend the following:

The Figs. 1 and 2 show the starting position of the die button 10 of the setting head 16 directly before the start of the attachment of the functional element 22 to the sheet metal part. In this arrangement the die button 10 is normally arranged in a lower tool of a press, whereas the setting head 16 is carried by an upper tool of the press or by an intermediate plate of the press. Other arrangements are also possible. For example, the die button can be carried at the intermediate plate of the press or by an intermediate plate of the press. Further arrangements are also possible. ~~For example the die button can be attached to the intermediate plate of the press and the setting head to the upper tool of the press.~~ Inverse arrangements are also possible in which the die button is attached in the upper tool of the press and the setting head in the lower tool of the press or at the

intermediate plate. The provision of a press for the actuation of the tools comprising the setting head and the die button is however not compulsory. Thus, for example, arrangements are possible in which the die button and the setting head are carried by a robot in order to realize the required relative movement between the setting head and the die button in the direction of the longitudinal axis of the functional element, with this relative movement either taking place by the robot itself or by the action of force from the outside. Other tools are also conceivable which could take care of the required relative movement of the setting head and the die button.

On page 13, second paragraph of the present specification, please amend the following:

The designations top, bottom etc. which are used in the description refer to the geometrical arrangement of Figs. 1 and 2 and are not however to be regarded as restrictive. With a different geometrical arrangement, for example with the die button at the top and the setting head at the bottom the designations of the positions used should be interpreted accordingly. Finally oblique arrangements of the die buttons ~~around~~ and the setting head are also entirely conceivable.

On page 14, third paragraph of the present specification, please amend the following:

During this movement of the setting head the shaped parts 50 are immovably held because they are prevented from movement along the guide track 22 by the contact of the cylindrical surfaces 54 against the outer cylindrical surface 88 of the abutment element 68. One notes from Fig. 3 that this contact of the part-cylindrical surfaces 54 against the cylindrical surface 88 is just about to be removed because the abutment element 68 has

been urged rearwardly as a result of the pressure exerted by means of the functional element 22 via the sheet metal part 12 on the central pin 76 to such a degree that the ring surface 90 of the abutment element, which surrounds the central pin 76 and represents the upper end face of the cylindrical part 88 of the abutment element will soon come to lie below the lower end faces ~~92~~ 93 of the shaped parts 50.

On page 15, second paragraph of the present specification, please amend the following:

This force forces the shaped parts 50 to move along the inclined guide tracks, with them no longer being prevented from this movement by the abutment element 68, because the ring surface ~~92-90~~ lies below the end faces 93 of the shaped parts 50. This movement continues until the position of Fig. 5 is reached. One sees here that the recess formed in accordance with Fig. 3 has now been pressed firmly against the head part 20 of the functional element at three points by the radially inwardly directed movement of the shaped parts which is associated with the movement along the inclined guides 44, with the radially inwardly projecting noses 64 of the shaped parts 50 having pressed the sheet metal material into the oppositely disposed features of shape or undercuts of the head part of the functional element, so that a firm contact of the sheet metal part against the head part 20 of the functional element 22 is present. Through the engagement of the sheet metal material into the recesses 24 a high security against rotation and also high resistance to press-out is produced. The connection between the functional element 14 and the sheet metal part 12 is now finished and the component assembly comprising the sheet metal parts and the functional element attached thereto can now be removed by opening of the press from the latter. In this arrangement, on opening of the press, the

upwardly directed force exerted by the spring 72 on the abutment element, which acts via the central pin 76 on the component assembly comprising the functional element 14 and the sheet metal part, serves to push the component assembly upwardly whereby the shaped parts 50 are co-lifted, in particular, because the radially inwardly directed projections engage into the sheet metal material. This lifting movement takes place until the cylindrical part of the abutment element can slide between the shaped parts again in the region of the cylindrical surfaces 54. At this point in time the die button is opened again and the shaped parts are moveable radially outwardly and upwardly to such an extent that the component assembly can be removed and a new sheet metal part can be introduced into the press in order to be connected to a new functional element.

On page 16, second paragraph of the present specification, please amend the following:

The lifting of the component assembly 12, 14 out of the die button 10 can also take place at least partly by the setting head if the latter exerts forces on the shaft part 22, such as for example in the setting head of the European application 02 012 625.6 (P3971). As a result of the form-fitted connection between the head part 20 and the sheet metal part 12 these forces lift the shaped parts 50 and force them to a radially outwardly directed movement, which takes place as a result of the inclined guide tracks until the component assembly is released by the shaped parts. The setting head must however then be so designed and controlled that it subsequently releases the shaft part and thus the component assembly.

Please add the following abstract for this newly filed application:

Abstract

Method for the attachment of a functional element having a head end and optionally a shaft part, in particular a fastener element, to a sheet metal part, optionally in liquid-tight and/or gas-tight form, wherein the functional element is pressed against the sheet metal part supported by a die button having a shaping space and sheet metal material is pressed by means of at least one movably mounted shaped part, and preferably by means of at least two such shaped parts of the die button, and by a radially inwardly directed movement of the or each shaped part, into an undercut of the functional element, with the or each shaped part forming a respective wall region of the shaping space, wherein the or each shaped part is initially radially supported by an envelope surface region of an abutment envelope and is prevented from a radially inwardly directed movement so long until the sheet metal material is drawn by the head end of the functional element into the shaping space for the formation of a pronounced recess at least largely surrounding the head end and is only then released by an axial movement of the envelope surface region of the abutment element past the or each shaped part for the radial movement for the pressing of the sheet metal material into the undercut.